

## CLAIMS

1. Iron oxide powder for an undercoat layer of a coat-type magnetic recording medium having a multilayer structure which comprises cobalt-doped iron oxide particles having an average length of 0.02 to 0.3  $\mu\text{m}$ , an aspect ratio (length to width ratio) of 2 to 13, and a BET specific surface area of 40 to 100  $\text{m}^2/\text{g}$ , containing a cobalt compound in an amount of 0.2 to 10 atom% in terms of cobalt based on total iron, and having a pH of 6 to 8, a soluble cation content of 50 ppm or less, and a soluble anion content of 50 ppm or less.
2. Iron oxide powder for an undercoat layer of a coat-type magnetic recording medium according to claim 1, wherein said cobalt-doped iron oxide particles have a soluble cation content of 5 to 20 ppm and a soluble anion content of 5 to 20 ppm.
3. Iron oxide powder for an undercoat layer of a coat-type magnetic recording medium according to claim 1 or 2, wherein said cobalt-doped iron oxide particles contain at least one of an aluminum compound in an amount of 0.5 to 10 atom% in terms of aluminum and a silicon compound in an amount of 0.1 to 5 atom% in terms of silicon, each based on the total iron.
4. Iron oxide powder for an undercoat layer of a coat-type magnetic recording medium according to claim 1, 2 or 3, wherein said cobalt-doped iron oxide particles are cobalt-doped  $\alpha$ -iron oxide particles.
5. A process of producing an iron oxide powder for an undercoat layer of a coat-type magnetic recording medium having a multilayer structure, which process comprises the steps of adding to an aqueous solution of a ferrous salt an equivalent or more amount of an alkali to prepare a ferrous hydroxide colloid liquid, bubbling an oxygen-containing gas through the colloid liquid to prepare a goethite slurry, filtering the slurry, washing the filter cake with water, drying the cake, and dehydrating the resulting goethite powder by heating at 300 to 600°C in a non-reducing gas stream, wherein said ferrous salt is ferrous chloride, said alkali is ammonia containing carbonate ions, and a cobalt compound is added in any of the steps involved to prepare said goethite slurry or after preparation of said goethite slurry to produce cobalt-doped iron

oxide particles which have an average length of 0.02 to 0.3  $\mu\text{m}$ , an aspect ratio (length to width ratio) of 2 to 13, and a BET specific surface area of 40 to 100  $\text{m}^2/\text{g}$ , contain a cobalt compound in an amount of 0.2 to 10 atom% in terms of cobalt, have a pH of 6 to 8, and have a soluble cation content of 50 ppm or less and a soluble anion content of 50 ppm or less.

6. A process of producing an iron oxide powder for an undercoat layer of a coat-type magnetic recording medium according to claim 5, wherein said step of dehydrating the goethite powder by heating is carried out in a steam atmosphere.